REMARKS

Applicant hereby responds to the Final Office Action dated August 12, 2004. Claims 13-48 are pending in the patent application. Claims 13, 21-22, 30-31, 39-40 and 48 were rejected under 35 USC 103(a) as being unpatentable over Suzuki, T. et al. ("Suzuki"), Teleoperation of multiple robots through the Internet, 5th IEEE International Workshop on Robot and Human Communications, November 11-14, 1996, pages 84-89. Claims 14-20, 23-29, 32-38, 41-47 were rejected under 35 USC 103(a) as being unpatentable over Suzuki in view of USPN 5,956,487 to Venkatraman et al. ("Venkatraman").

Applicant wishes to thank the Examiner for courtesies shown to Applicant's authorized representative, Michael Zarrabian, during the phone interview of November 2, 2004, wherein differences between the present invention and Suzuki were discussed (as detailed below).

Rejection of Claims 13, 21-22, 30-31, 39-40 and 48 under 35 USC 103(a)

Rejection of Claims 13, 21-22, 30-31, 39-40 and 48 under 35 USC 103(a) as being unpatentable over Suzuki is respectfully traversed because the claims include limitations not taught or suggested by Suzuki.

As per Claim 13, Suzuki does not teach or suggest a method for providing an interface for accessing devices that are currently connected to a home network. Suzuki, is directed to a human interface system for multi-robot teleoperation using the WWW system wherein a single operator operates all of the robots simultaneously (page 84, col. 2, section 2, lines 1-3). Suzuki

does not disclose detecting devices that are currently connected to the home network, said devices having at least one controllable function. In Suzuki displaying status of a robot in FIG. 4 does not mean, or require, detecting that the robot is connected to the network. There is no detection step in Suzuki that leads to creation of a menu of devices as claimed herein.

Further, Suzuki does not disclose the steps of creating a menu after detecting devices, which lists the devices and allows individually selecting each of said devices to activate their controllable functions. Also, Suzuki does not disclose displaying the menu on a display device for a user to select each device and activate said controllable function, as required by Claim 13. After the user selects a device from the menu, then a user interface for the selected device is shown to the user for interaction with the selected device.

As described in more detail below, in Suzuki the operator commands a task (e.g., viewing an object) to an Operation Module without specifying which robot performs the task. Then, the Operation Module communicates with the robots to determine which robot(s) can perform the task, and commands those robot(s) to perform the task.

On page 85, right column, Suzuki describes the five modules as:

(1) a Presentation Interface Module that accepts commands given by the operator and shows the condition of the system,

(2) a Monitoring Module that gathers information in the system for monitoring purposes,

(3) a Dialog Module that is responsible for coordinating message exchange between the operator and the robots,

(4) an Operation Module that interprets commands into readable formats, and

(5) a Communication Module that converts information from other modules into uniform protocol among robots .

Suzuki describes the operation of the five modules in Section 5.1 on pages 86 and 87 in conjunction with Fig. 3, wherein Suzuki states that:

(1) in Step 1 a WWW server receives task commands from an operator,

(2) in Step 2 the WWW server invokes the Operation Module,

(3) in Step 3 the *Operation Module consults an operation database and determines necessary facilities and operations for the given task and allocates robots* available for the task,

(4) in Step 4 the Communication Module transmits commands to the available robots to perform the requested task,

(5) in Step 5 the available robots reply to the task request and the *Operation Module negotiates with those robots through the Communication Module to specify the robots that execute the task,*

(6) in Step 6 after the robots complete the tasks they send status data to the Monitoring Module through the Communication Module,

(7) in Step 7 the Monitoring Module saves that data and provides that data to the WWW server, and

(8) in Step 8 the WWW server presents that data in the Presentation Interface Module for the operator (emphasis added).

As is clear from the above passage, an operator does not select a robot, rather the Operation Module does. Suzuki does not teach or suggest creating a menu of devices for individually selecting each of said devices from the menu, which leads to a user interface for the selected device to then activate said controllable function of the selected device. The operator in Suzuki does not select an individual robot from an initial menu that shows a list of robots. The operator specifies a task (e.g., "observing an object"), and does not select a specific robot from a menu for that task. Rather, the Operation Module in Step 3 above, negotiates with the robots and selects the robots that can perform the task.

The Operation Module is a task manager that manages the robots to perform an operator requested task and ensures the cooperative operation of the robots. Suzuki does not allow an operator to select an individual robot from a menu for a task because it would interfere with Suzuki's system of simultaneous multi-robot operation. This is important because multiple operators (Fig. 2) can request tasks to be performed by the limited number of robots and the Operation Module ensures that the different tasks get done by the available robots. Otherwise, without the Operation Module, if multiple operators (see Fig. 3, multiple Presentation I/F Modules) selected the same robot for a task, there would be contention. Further, if multiple robots are selected by multiple operators without task scheduling and management by the Operation Module, the robots can, for example, physically collide into one another for example.

The Patent Offices states that Suzuki's presentation of images from each connected robot, along with a Dialogue Window for inputting commands directed to specific devices (Figure 4), at least clearly suggests a menu of robots for interaction with a user. It is respectfully submitted that the Patent Office is misinterpreting Suzuki and its Figure 4, which only shows the fields: (1) images from each robot, (2) bird's eye view of real environment, (3) graphical map of environment model, (4) control panel for individual robot, (5) dialogue window and (6) robot's status panel.

There is no menu in Figure 4 of Suzuki for an operator to individually select each detected device from a list of devices and activate its controllable functions, as claimed. The present invention discloses a menu for showing devices connected to the network to select devices from, and a user interface for controlling a device selected from the menu. Claim 13 is directed to said menu for selecting devices connected to the network, which is not disclosed by Suzuki.

Further, the only description of Suzuki's Figure 4 is on page 86, section 5.1 and on page 88, section 5.3, wherein none of the Patent Office's interpretations of Suzuki are supported. In section 5.1 Suzuki states in relevant part: "The operator inputs task commands by selecting items in the menu, pushing buttons or clicking the object on the clickable map of HTML." Then, in section 5.3 Suzuki states in relevant part: "We execute an observation task with giving commands to the robots by clicking an object on the environment map shown in Fig. 4." As

such, Suzuki clearly states that the operator *inputs tasks*, rather than selects individual robots for a task. As detailed above, it is the Operation Manager that selects robots based on a task input by the operator. There is no mention or suggestion of creating a menu for individually selecting each of said devices to activate said controllable function, and displaying said menu on a display device for a user to select a device and activate said controllable function, as required by Claim 13. Not only does Suzuki's Figure 4 not show a menu as claimed, nowhere in Suzuki is Figure 4 described to provide a menu of the typed claimed herein.

Further, the Patent Office's interpretation of Suzuki as providing a menu for operator selection of individual robots goes against Suzuki's explicit details of a command log from the WWW server in Figure 6(a) that the Patent Office relies on. In Figure 6(a), there is no menu as claimed, and it is clear that in performing a task the Operation Module, not the operator, communicates with individual robots. Suzuki explicitly states:

> "*When the operator requires observation task, the Operation Module broadcasts a task request message to the robot ID '**Cm****'*. Since all of the robots know their own ID, the robots carrying cameras reply to the Operation Module" (Suzuki, page 87, section 5.2, emphasis added).

Therefore, despite the Patent Office's interpretation, Suzuki does not state that when the operator requires an observation task, the operator selects an individual robot. And, there is no operator selection of an individual robot for an observation task from a menu. Suzuki does not provide such a feature. In Figure 6(a), relied upon by the Patent Office, all robots having a

camera (i.e., "**Cm****"), are specified, not an individual robot selected by an operator from a menu. Suzuki explains:

> "Assuming inspection tasks of a plant, we execute an observation task with giving commands to the robots by clicking an object on the environment map shown in Fig. 4.... Figure 6 shows a part of communication logs between the WWW server and the robots. The WWW server required observation tasks to the robots' ID '**CM***'. The robot 1 and robot 2 which had cameras replied to the WWW server." (Suzuki, page 88, section 5.3, second paragraph).

Again, there is no mention or suggestion in Suzuki that an operator specifies an individual robot. It is impermissible for the Patent Office to read information into a reference by declaring that a limitation is obvious without providing support in the prior art.

Suzuki does not disclose any menu or a menu for selection of robots, nor can Suzuki be modified to do so without making the human interface system of Suzuki totally inoperative. The inclusion of a menu in Suzuki for selecting specific robots goes against the teachings and purpose of the human interface system of Suzuki because according to Suzuki:

> "The human interface system must coordinate tasks and organize robots. The communication system and protocols have been developed to realize the communication between multi-robots. The organization strategies using the communication system have also developed to realize the cooperation among the robots. The communication between the human interface and multi-robots

conforms with the communication strategies" (Section 5.2, page 87, first paragraph).

As Suzuki states, *the human interface system* must coordinate tasks and *organize robots*, not the operators (Section 5.2, page 87, first paragraph, emphasis added). Though the robots are uniquely identified (e.g., "***CmCd01*" representing "omni directional robot No. 1 which has CCD camera and can carry out the task using camera"), the operator does not select a specific robot from a menu to perform an observation task. The wildcard notation "*" referred to by the Patent Office, is not a wild card identification that can be specified or used by an operator to specify an individual robot. The logs of Figure 6(a) show that Operation Module specifies the wildcard commands, and as detailed above, the operator only specifies tasks without specifying specific robots. The wildcard notation represents a field description as shown in Fig.5, such that: "*The Operation Module* can coordinate tasks or robot organization using the robot's ID" (Suzuki, page 87, section 5.2, emphasis added). Suzuki does not even mention that the operators have any knowledge of the robot IDs to individually select the robots using their IDs, nor is there a menu that presents a list of robots for the operator to select from. Nor does Suzuki allow the operator to use wildcards because, as described above in relation to Fig. 6(a), it is the operation Manager that uses wildcards in commands, not an operator.

The Patent Office admits that Suzuki does not disclose menus as claimed, but then states that in Figure 4 Suzuki shows images from multiple robots and a dialogue window for inputting commands to specific robots, which the Patent Office then interprets as suggesting a menu as

claimed. However, as discussed above, the operator cannot command specific robots, and the logs in Fig. 6 are not from an operator to a robot, rather between the Operation Manager and the robots. Nowhere in Suzuki is it taught or suggested that the dialogue window is used by an operator to command individual robots. And, clearly, images from cameras of individual robots do not teach or suggest a menu as claimed. The Patent Office further states that an operator in Suzuki is fully capable of targeting a specific robot (i.e., inputting and requesting specific robot ID: UgCmVc01). However, in Fig. 6(b) the robot UgCmVc01 is responding to the Operation Module, it is not an operator that is addressing that robot. For at least the above reasons, it is respectfully submitted that rejection of Claim 13, and all claims dependent therefrom should be withdrawn.

As per Claim 21, Suzuki does not disclose that detecting devices that are currently connected to the home network further comprises the steps of "autonomously detecting devices that are currently connected to the home network", as required by Claim 21. The Patent Office is reading information into Suzuki that is not there. Specifically, the Patent Office states that because Suzuki teaches management of networked devices in a room, autonomous detection as claimed would have been obvious since the devices are detected and linked irregardless of end-user intervention, Suzuki's browser interface depicting current device connections suggests autonomous linking/management of said devices, providing Suzuki the benefit of current status of linked devices. The Patent Office cannot simply declare a limitation as obvious without showing such disclosure in the prior art. There is no teaching or suggestion in Suzuki of autonomous detection. Suzuki does not require autonomous detection as claimed. Rather, in

Suzuki a robot may be connected to the network without autonomous connection being required. And, as discussed above in relation to Claim 13, Suzuki does not teach the step of detecting robots on the network. Clearly then, Suzuki does not teach the step of autonomously detecting devices currently connected to the home network. As such, rejection of Claim 21 should be withdrawn.

As per Claim 22, Suzuki does not disclose:

A method for providing an interface for accessing devices that are currently connected to a home network,

detecting an active state of devices that are currently connected to the home network, said devices having at least one controllable function,

creating a menu for individually selecting each of said devices to activate said controllable function;

displaying said menu on a display device for a user to individually select each device and activate said controllable function.

Despite the Patent Office's tenuous interpretation of Suzuki (non-analogous art), display of images from robot cameras on an operator's screen does not teach or suggest detecting which devices connected to a home network are active. If there are images being received from a robot, why would there be a detection step necessary in Suzuki to determine if the robot is active? The Patent Office states that diagnostics involve active/inactive status and receiving images from a robot may not mean it is active. Again, the Patent Office is impermissibly reading information

into Suzuki that is not required by Suzuki, and without support from the prior art. Further, the detection step in the claimed invention, occurs before creating and displaying menu of detected active devices so that the devices can be selected from the menu. There is no such teaching in Suzuki. For at least these reasons, and the reasons provided above in regards to Claim 13, it is respectfully submitted that rejection of Claim 22 and all claims dependent therefrom should be withdrawn.

As per Claim 30, Suzuki does not disclose autonomously detecting an active status of devices that are currently connected to the home network. As discussed above in relation to Claims 13, 21, 22, Suzuki does not teach the step of detecting robots on the network. Clearly then, Suzuki does not teach the step of autonomously detecting active devices currently connected to the home network. As such, rejection of Claim 30 should be withdrawn

Claim 31, was rejected for substantially the same reasons as rejections of Claims 13 and 22. It is respectfully submitted that Suzuki does not disclose a home network system for providing an interface for accessing devices that are currently connected to a home network, comprising:

> a detector that detects devices that are currently connected to the home network, said devices having at least one controllable function,
>
> a menu generator that creates a menu for individually selecting each of said devices to activate said controllable function, and

a browser for displaying said menu on a browser based device for a user to individually select each device and activate said controllable function, as required by Claim 31.

For at least the reasons provided above in relation to Claims 13 and 22, rejection of Claim 31 and all claims dependent therefrom should be withdrawn.

As per Claim 39, Suzuki does not disclose that the detector autonomously detects devices that are currently connected to the home network. Rejection of Claim 39 should be withdrawn for at least the reasons provided in relation to Claims 13, 21, 22, 30 and 31.

Claim 40 was rejected for substantially the same reasons as rejections of Claims 13, 22 and 31. It is respectfully submitted that Suzuki does not disclose a home network system for providing an interface for accessing devices that are currently connected to a home network, comprising:

a detector that detects an active state of devices that are currently connected to the home network, said devices having at least one controllable function",

a menu generator that creates a menu for individually selecting said devices to activate said controllable function, and

a browser that displays said menu on a browser based device for a user to individually select each device and activate said controllable function, as required by Claim 40.

For at least the reasons provided above in relation to Claims 13, 22 and 31 rejection of Claim 40 and all claims dependent therefrom should be withdrawn.

As **per Claim 48**, Suzuki does not disclose that the detector autonomously detects active status of devices that are currently connected to the home network. Rejection of Claim 48 should be withdrawn for at least the reasons provided in relation to Claims 13, 21, 22, 30, 31 and 39.

Rejection of Claims 14-20, 23-29, 32-38, 41-47under 35 USC 103(a)

Rejection of Claims 14-20, 23-29, 32-38, 41-47 under 35 USC 103(a) as being unpatentable over Suzuki in view of Venkatraman is respectfully traversed because the claims include limitations not taught or suggested by the references alone or in combination.

As per Claim 14, the references do not close that the "menu comprises a web page including at least one hypertext link to a web page contained within said device", as required by Claim 14. As the patent Office also states Suzuki does not disclose hypertext links to web pages contained within devices connected to the network. The Patent Office then states the Venkatraman discloses embedding web access in an appliance, whereby access to user interface functions for a device is attained through a device web page located within said device, said page activated via hyperlink. The Patent Office contends that it would have been obvious to one of ordinary skill in the art to apply Venkatraman's embedded device web page within Suzuki's

menu, providing a user of Suzuki the benefit of seeing robot specific information (its embedded web page) to aid in decision making.

However, as discussed, there is no menu or menu of devices in Suzuki for selection of devices connected to a home network. Nor is there any teaching in Suzuki of a menu of devices with links to web pages in the devices connected to the home network. Further, none of Suzuki's robots even include a web page or user interface of any sort. As there is no menu of devices in Suzuki, Suzuki cannot be modified by Venkatraman to place links to web pages in robots. Further, there is no need to place web pages in the robots since the robots do not provide user interfaces to be displayed, and as discussed, in Suzuki robot specific information is already provided to the WWW server in Step 8 above and displayed. What is the point/benefit of modifying Suzuki? Not only there is no benefit in modifying Suzuki per Venkatraman, such a modification would provide a non-functioning system in Suzuki since the robots do not communicate with operators rather they communicate with the Operation Module. Further, there is no motivation or suggestion in either reference to combine them as the Patent Office suggests. For at least these reasons, rejection of Claim 14 and all claims dependent therefrom should be withdrawn.

As per Claim 15, the references do not disclose: "creating a device link page from the home network, wherein the device link page includes at least a device control that is associated with a device that is detected in step (a), and associating a hypertext link with each device control, wherein the hypertext link provides a link to graphical or textual information that is

contained in the detected device that is associated with the device control" and "displaying said device link page", as required by Claim 15. Despite the Patent Office's contention, Suzuki does not disclose a menu for device selection. Further, the Patent Office has not in any way explained how Suzuki discloses a device link file as claimed. Fig. 4 of Suzuki if not a device link file as claimed. As discussed, Suzuki does not disclose hypertext links to interface information in robots, and no such information is in any of the robots.

Further, despite the Patent Office's interpretation of Suzuki, display of images from robot cameras on an operator's screen does not teach or suggest detecting which devices are connected to a home network, and such information is not interface information for selecting a robot. The detection step in the claimed invention, occurs before creating and displaying menu of detected active devices so that the devices can be selected from the menu. There is no such teaching in Suzuki. And as discussed, Suzuki cannot be modified by Venkatraman, there is no benefit on such modification, and such a modified system is non-functional. For at least these reasons, rejection of Claim 15 and all claims dependent therefrom should be withdrawn.

Claim 16, was rejection for substantially the same reasons as Claim 15. It is respectfully submitted that the references do not disclose that "said device link page comprises a web page or an html page including at least one hypertext link to a web page or an html page contained within said detected device", as required by Claim 16. Rejection of Claim 16 is traversed for at least reasons provided above in relations to Claims 14 and 15.

As per Claim 17, the references do not disclose creating a device link page by "generating a device link file, wherein the device link file identifies the detected devices; and creating the device link page including said device control associated with a device identified in the device link file", as required by Claim 17. Suzuki does not disclose a link page including links to web pages in detected devices. The web page in Fig. 4 is not one created based on information from the robots that allows creating a menu for selecting among robots. The claimed invention uses the links in the menu to obtain interface information from the detected devices for generating a menu of devices that is used for selecting devices. As explained, the robot ID information in Suzuki is not presented to an operator, nor used by an operator, to select a robot in performing a task by a particular robot. Rather, the Operation Module uses such ID information. Therefore, despite the Patent Office's contention, there is no menu of robots for an operator to select from in Suzuki. As such, rejection of Claim 17 and all claims dependent therefrom should be withdrawn.

As per Claim 18, the references do not disclose generating the device link file by "associating a logical device name with the detected device; and storing the logical device name in the device link file", as required by Claim 18. As discussed, the robot IDs in Suzuki are not presented to the operator nor used by an operator to select a particular robot from a menu. The robots IDs have absolutely nothing to do with generating a menu for selecting devices, and no such claimed features are taught by Suzuki. Storing the robot IDs in a data base is not remotely similar to placing logical device names in a menu for selection. For at least these reasons, rejection of Claim 18 and all claims dependent therefrom should be withdrawn.

As per Claim 19, the references do not disclose creating the device link page by "retrieving a logical device name from the device link file; storing the logical device name in the device link page; and converting the logical device name to a device control", as required by Claim 19. Clearly, Suzuki does not disclose any of such steps for the aforementioned reasons, and the web page in Fig. 4 of Suzuki is not in any way a selection menu based on robot IDs. Suzuki does not disclose that the Control Panel for Individual Robot is in any way related to selecting a robot from among multiple robots listed in a menu or detected robots. Information from robots after task completion is not remotely related to the claimed steps for generating a menu to selected devices from. For at least these reasons, rejection of Claim 19 and claims dependent therefrom should be withdrawn.

As per Claim 20, the references do not disclose that "said device link page comprises a web page or an html page including at least one hypertext link to a web page or an html page contained within said detected device", as required by Claim 20. Again, Suzuki does not teach a menu of devices, and it cannot be modified by Venkatraman for the reasons detailed above. For at least these reasons, rejection of Claim 20 should be withdrawn.

Claims 23-29 were rejected for substantially the same reasons as Claims 14-20. As such, for at least the reasons provided above in relation to Claims 14-20, rejection of Claims 23-29 should be withdrawn.

Claims 21-38 were rejected for substantially the same reasons as Claims 32-38 and claims 14-20. As such, for at least the reasons provided above in relation to Claims 14-20, rejection of Claims 21-38 should be withdrawn.

Claims 41-47 were rejected for substantially the same reasons as Claims 23-29. As such, for at least the reasons provided above in relation to Claims 23-29, rejection of Claims 41-47 should be withdrawn.

CONCLUSION

It is respectfully submitted that the application is in condition for allowance, and an early notification of the same is requested. If it is believed that a telephone interview will help further the prosecution of this case, Applicants respectfully request that the undersigned attorney be contacted at the listed telephone number.

If necessary, the Commissioner is hereby authorized to charge payment or credit any overpayment to Deposit Account No. 01-1960 for any additional fees required in connection with this filing.

I hereby certify that this correspondence is being deposited with the United States Postal Services first class mail in an envelope addressed to: Commissioner of Patents and Trademarks, ~~Washington, D.C. 20231~~ Alexandria, VA, on November 12, 2004
Date

By Susan M. Donaldson
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November 12, 2004
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Respectfully submitted,

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